

What is claimed is:

1. A mechanical persistent current switch comprising:

bulk member made of a RE-Ba-Cu-O superconductor, RE representing a rare earth element; and

connector material; wherein the bulk member made of RE-Ba-Cu-O superconductor is made by melt process in which resin is impregnated, and the connector material with an electrical terminal and a voltage terminal on the bulk member.

2. A mechanical persistent current switch according to claim 1 wherein the impregnated resin includes fillers having small thermal expansion coefficient in a dispersed manner.

3. A mechanical persistent current switch according to claim 1 wherein contacting surfaces of the connector materials are polished.

4. A mechanical persistent current switch according to claim 1 wherein a direction of current is parallel to the *ab* surface by making a contact surface perpendicular to the *ab* surface of the connector.

5. A method of using a mechanical persistent current switch according to claim 1 having a pre-treatment of passing currents above the critical value until the ohmic resistance

behavior appears prior to using the mechanical persistent current switch.

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